AMENDMENTS

In the Specification

None.

In the Claims

Please replace the claims with the following clean version of the entire set of pending claims, in accordance with 37 C.F.R. § 1.121(c)(1)(i). Cancel all previous versions of any pending claim.

A marked up version showing amendments to any claims being changed is provided in one or more accompanying pages separate from this amendment in accordance with 37 C.F.R. § 1.121(c)(1)(ii). Any claim not accompanied by a marked up version has not been changed relative to the immediate prior version, except that marked up versions are not being supplied for any added claim or canceled claim.

Cancel Claims 1-2, 4-13, 16, 18, 20-25, 34-38, 39-42, 44-46, 48-51 and 65 without prejudice.

66. A method for forming a low k dielectric layer comprising:

providing a substrate, having integrated circuitry at least partially formed thereon, into a chemical vapor deposition (CVD) chamber;

chemical vapor depositing a first material comprising carbon and silicon on the integrated circuitry, the deposited first material being formed from a gaseous precursor compound comprising carbon and silicon being exposed to a plasma; and

after the depositing, exposing the first material to a dry oxygen-containing moiety, the exposing converting substantially all of the first material to a second material comprising carbon, silicon and oxygen.

67. The method of Claim 66, where the gaseous precursor compound is a methylsilane compound.

68. The method of Claim 66, where the dry oxygen-containing moiety is selected from the group consisting of oxygen, nitrous oxide and mixtures thereof.

69. The method of Claim 66, where the gaseous precursor compound is a methylsilane compound and the dry oxygen-containing moiety is selected from the group consisting of oxygen, nitrous oxide and mixtures thereof.

70. The method of Claim 66, where the dry oxygen-containing moiety is at least in part O_2.

71. The method of Claim 66, where the dry oxygen-containing moiety is at least in part N_2O.

72. The method of Claim 66, where exposing the first material comprises exposing to a plasma, heat, ultra-violet light or combinations thereof.

73. The method of Claim 72, where during the exposing, the pressure is held at from about 300 mTorr to about 1 atmosphere.

74. The method of Claim 66, where exposing the first material comprises exposing to a plasma.

75. The method of Claim 66, where the CVD chamber is at a pressure of from about 300 mTorr to about 30 Torr during the chemical vapor depositing.

76. The method of Claim 66, further comprising holding the CVD chamber at a pressure of from about 1 Torr to about 10 Torr during the chemical vapor depositing.

77. The method of Claim 66, where being exposed to a plasma comprises forming a plasma of the gaseous precursor compound at a power of from about 50 watts to about 500 watts.

78. The method of Claim 77, further comprising holding the CVD chamber at a pressure of from about 1 Torr to about 10 Torr during the depositing.

79. The method of Claim 66, where the second material comprises $(CH_3)_xSiO_y$.

80. The method of Claim 66, where the second material consists essentially of $(CH_3)_xSiO_y$.

81. A method for forming a low k dielectric layer comprising:

providing a substrate, having at least partially formed integrated circuitry thereon, into a chemical vapor deposition (CVD) reaction chamber;

with the substrate in the CVD reaction chamber, chemically vapor depositing a dielectric material layer, having a first dielectric constant, on the substrate and on the at least partially formed integrated circuitry, the depositing comprising introducing into the CVD reaction chamber a first gaseous material precursor and a dry oxygen-comprising gaseous material while providing a plasma;

after the depositing, blanket exposing the dielectric material layer to an oxygen comprising plasma, the blanket exposing effective to reduce the first dielectric constant to a second dielectric constant.

82. The method of Claim 81, where the oxygen comprising plasma is formed employing the dry oxygen-comprising gaseous material.

83. The method of Claim 82, where the dry oxygen-comprising gaseous material is selected from the group consisting of oxygen, ozone, nitrous oxide, NO_x and mixtures thereof.

84. The method of Claim 81, where the oxygen comprising plasma is formed employing another dry oxygen-comprising gaseous material, the dry oxygen-comprising gaseous material and the other dry oxygen-comprising gaseous material being different materials selected from the group consisting of oxygen, ozone, nitrous oxide, NO_x and mixtures thereof.

85. The method of Claim 81, where the first gaseous material precursor is a methylsilane compound.

86. The method of Claim 81, where the first gaseous material precursor is a methylsilane compound and the dry oxygen-comprising gaseous material is selected from the group consisting of oxygen, ozone, nitrous oxide, NO_x and mixtures thereof.

87. The method of Claim 86, where the oxygen comprising plasma is formed employing another, different dry oxygen-comprising gaseous material selected from the group consisting of oxygen, ozone, nitrous oxide, NO_x and mixtures thereof.

88. The method of Claim 81, where the exposing is effective to increase stability of the dielectric constant to variation from what it was prior to the exposing.

89. The method of Claim 81, where the blanket exposing occurs within the CVD reaction chamber without removing the substrate from the CVD reaction chamber between the chemical vapor depositing and the blanket exposing.

90. The method of Claim 81, where a temperature during the blanket exposing is always less than or equal to 550°C.

91. The method of Claim 81, where the blanket exposing is ineffective to appreciably etch the dielectric material layer.

92. The method of Claim 81, where the dielectric material layer subjected to the blanket exposing comprises silicon atoms bonded to carbon atoms.

93. The method of Claim 81, where at least some of the carbon atoms are present within a CH_3 group.

94. The method of Claim 81, where the dielectric material layer subjected to the blanket exposing comprises $(CH_3)_xSiO_y$ which remains substantially as $(CH_3)_xSiO_y$ after the blanket exposing.

95. The method of Claim 81, where the dielectric material layer subjected to the blanket exposing comprises $(CH_3)_xSiO_y$ which remains substantially as $(CH_3)_xSiO_y$ after the exposing, and wherein the blanket exposing comprises at least 20 seconds.

96. The method of Claim 81, where the dielectric material layer subjected to the blanket exposing comprises silicon atoms bonded to carbon atoms, a whole of the dielectric material layer subjected to the blanket exposing is not transformed from one base chemistry to another by the blanket exposing, and the blanket exposing comprises at least 20 seconds.

97. The method of Claim 81, where the dielectric material layer subjected to the blanket exposing comprises silicon atoms bonded to carbon atoms, a whole of the dielectric material layer subjected to the blanket exposing is not transformed from one base chemistry to another by the blanket exposing, and the blanket exposing comprises at least 40 seconds.

98. The method of Claim 81, where the dielectric material layer subjected to the blanket exposing comprises silicon atoms bonded to carbon atoms, a whole of the dielectric material layer subjected to the blanket exposing is not transformed from one base chemistry to another by the blanket exposing, and the blanket exposing comprises between at about at least 20 seconds to about 100 seconds.

99. The method of Claim 81, where the dielectric material layer subjected to the blanket exposing comprises silicon atoms bonded to carbon atoms, a whole of the dielectric material layer subjected to the blanket exposing is not transformed from one base chemistry to another by the blanket exposing, and the blanket exposing comprises at least 100 seconds.

100. The method of Claim 81 wherein the majority of the carbon atoms are present in the dielectric material layer are in the form of methyl groups, and wherein the methyl groups comprise from 10% to about 50% (mole percent) of the dielectric material layer before and after the blanket exposing.

101. The method of Claim 81, where the dielectric material layer is an interlevel dielectric layer.